Superfast Business Wales

Business Guide

Satellite, Wireless and Mobile

Wireless, satellite and mobile are different options for delivering broadband technology. Wireless within a business gives flexibility in networking and outside the business offers connectivity for mobile workers.

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Satellite, Wireless and Mobile

Wireless, satellite and mobile are three alternative methods for delivering broadband technology. Wireless within a business gives flexibility in networking and outside the business offers connectivity for mobile workers. 4G is being proposed as a solution for business broadband in remote areas where fibre broadband is not yet available. There are additional security issues to be considered with using mobile to access key business data.

Satellite offers an alternative where fibre and, indeed, mobile, technologies are unable to deliver.

We will also consider the implications of upgrading to fibre broadband after implementing a satellite solution in the first instance.

Wireless and Mobile

Understand

What Does The Technology Do?

Wireless broadband provides data connection using fixed and mobile technology.

Communications are established within business premises using routers which provide access to broadband services using WiFi based around a number of access standards. Public WiFi gives access to such services in public spaces such as hotels, cafes, business centres and others where suitably equipped (now mostly) laptops, netbooks, tablets and mobile phones can connect either free, by subscription, or on payment of a fee.

Mobile wireless technology can be accessed using a contract or pay SIM card through mobile phones, laptops/netbooks usually with additional hardware and some tablets. Standard GSM mobile signals are unsuitable for data; however GPRS (up to 60 kbits per second), EDGE and 3G (up to 473.6 Kb/s) and, increasingly, 4G (LTE) are suitable. Speeds vary according to conditions however, with the rated speeds increasing from GPRS up to 4G. For recently launched 4G LTE (Long Term Evolution) networks, tests have shown anywhere in between 8-50 Mb/s in available areas, so many will achieve Superfast speeds of >24 Mb/s.

In areas where terrestrial approaches to Broadband are not possible, 3G technology has been used to provide a rudimentary broadband within a business. The arrival of 4G with its promise of higher speeds has made mobile technology a real option for businesses in rural areas.

Most mobile networks and public WiFi should be considered insecure, and security of data needs to be considered where business data is being exchanged over such networks. Data encryption can be employed and, for connections into company systems, a security approach called Virtual Private Network (VPN) is often deployed.

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Adopt

Getting Started

Most modern computing equipment will come WiFi-enabled. For equipment that is not enabled it can be added by installing an internal card or adding an external USB 'dongle' modem. Some devices can be 'tethered' using an enabled mobile device's access.

Within premises you may need to create a wireless network which has connection to broadband– directly or through the wired network-and a router type device to provide the wireless service. In larger premises, several of these networks may need to be deployed.

Outside the premises, as well as providing equipment, you will also have to consider connectivity, security and user policies.

Many businesses negotiate corporate rates for access to mobile or WiFi networks and can, thus, express a preference for which networks their employees will use. Others will work on a more ad hoc basis, buying enabled devices or compensating users for the costs of using their own devices and subscriptions.

Security is an ever present issue, especially if business critical data is being exchanged. Businesses should specify or provide the basic firewall, anti-virus and anti-spyware software together with the maintenance regime they require their users to follow in order to ensure that they are always up to date.

Using encryption or VPN software is more complex and will require management of encryption keys and access codes for each user.
Data held on mobile devices is also vulnerable and you will need to decide what data is permitted to be held outside the business firewall and how it is to be protected–utilising security technologies such access management and data encryption for example.

Exploit

What Business Benefits Can I Expect?

Deployment of WiFi and higher speed mobile technologies within premises offers flexibility, especially for mobile users and for remote sensor and other network aware equipment which may not be wired in to the company networks.

For mobile users away from company premises, higher speed network access on the move improves connectivity and communication as well as allowing data to be maintained on the go through mobile and smart phones, tablets, laptops and netbooks, saving time and streamlining processes. Other devices such as diagnostic equipment, GPS tracking and card payment terminals can provide additional flexibility and capacity for centre-to-mobile communication.

Better connectivity in remote areas is also a significant attraction. BT and mobile provider EE have been trialling the use of 4G LTE signals as an alternative to fixed line provision in rural areas where the cost of providing fibre is currently too high.

Many businesses operate from multiple sites some of which may be remote and difficult to connect. Wireless can provide connectivity in such circumstances, reducing costs and improving reliability where other approaches won't work.

Satellite

Understand

What Does The Technology Do?

Satellite connections had gained a reputation for being expensive and difficult to implement, however this is no longer the case. Installation involves a satellite dish and a cable from the dish to a modem which then links to a router. The dish and modem can be provided as part of a package, meaning that if you terminate your contract then that hardware is removed. Connection is possible within the footprint of a satellite–'where you can see the sky, you can get fast broadband'.

Speeds up to 20Mbps download are available; however the connection will typically be asymmetrical, so upload speeds are likely to be much slower–around 750Kbps-, though modern satellite technology means that you can now get up to 6Mbps upload, so shop around.

Satellite is especially useful in providing solution in difficult to reach locations. Once connected to a router, it works in a similar way to standard broadband connections.

Adopt

Getting Started

You should initially research the offerings available in your location. Consider the following points:

- Does it include the hardware and installation?
- What is the duration of contract?
- Are there data limits in operation and what is the cost of additional data allowances?
- Does it have break clauses?
- What is the total cost of ownership?

Once you have signed a contract for services, installation of the satellite receiving equipment (a small dish) will take place and it will be wired into a satellite modem within the premises. The satellite modem is connected to a router or switch in the business which can provide wired and wireless networking within the premises.

This element of the system will be transferrable to any other broadband solution you may install at a later date. Install the network and connect devices to the wired Local Area Network or to internal WiFi and test that the system works together.

Moving From Satellite to Fibre

If you have installed Satellite and Fibre subsequently becomes available, what are the considerations before changing?

What is the cost of switching?

- Consider the potential costs of breaking current contract
- Is the hardware purchased? If so are there write down implications.
- Is the hardware part of the contract? Any implications on elements that need to be replaced?

What are the benefits of switching?

- What is the impact of improved speeds on the business operation?
- Is there a business case for Fibre over satellite
- Is improved reliability an issue?

Timing issues

- Cost/benefit timing–when is the optimum time for changeover?
- Disruption to communications during the changeover

Exploit

What Business Benefits Can I Expect?

First and foremost, access to broadband services where fibre and mobile cannot reach. One provider claims that 'If you can see the sky, you can have high speed broadband....'
Satellite speeds of up to 20Mbps are a significant improvement on those obtainable across standard phone lines allowing businesses to receive the benefits of a more reliable, speedier connection.

Installation and set - up can be achieved with relative ease – just a satellite dish and wiring into a satellite modem are required and are usually installed by the satellite broadband provider. Hardware can be included in the overall cost of the system.

Satellite can be later upgraded to other, faster approaches as they become available, giving businesses access to broadband sooner without limiting access to faster approaches as and when they are available.

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Top Tips

Be prepared
Even before installing Broadband, you can be planning for your use of it.

It's not only about the technology
The real difference is in what is enabled to happen in your business.

Choose well
Compare the services being offered by the Service Providers in the sector you choose. Find external help where necessary.

Research the cloud
Discover services that can upgrade your capability or save you money across your new, reliable connection.

Check out your existing computer installation
Whilst your equipment may connect to Superfast Broadband, it may need upgrading to make best use of the additional data flow. Once line speeds cease to be a limiting factor, processing speeds may become a limiter.

Have a flexible working policy
Flexible working can improve productivity in some business types, increase your potential for diversity and make more space in your offices for expansion. Ensure that all workers understand the terms on which flexible working is permitted and monitor productivity to ensure benefits are really being achieved.

Monitor benefits
Measure your productivity before installation to ensure that you can measure and understand the effects of the new connectivity.

Continue to monitor the market
As your needs change and the technology continues to improve, ensure you know whether you need to change suppliers or technology and do so in a managed process.

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1. **Register to attend a fully-funded Business Development Workshop.**
   www.business.wales.gov.uk/superfastbusinesswales/events

2. **Make an appointment to see a Business Advisor who will help you create a personal action plan to grow your business.**
   www.business.wales.gov.uk/contact-us

For further information on Connectivity take a look at:

See how other businesses in Wales have exploited Superfast Broadband
www.business.wales.gov.uk/superfastbusinesswales/superfast-success-stories

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Find out how much your business could save with our
www.business.wales.gov.uk/superfastbusinesswales/savings-calculator

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